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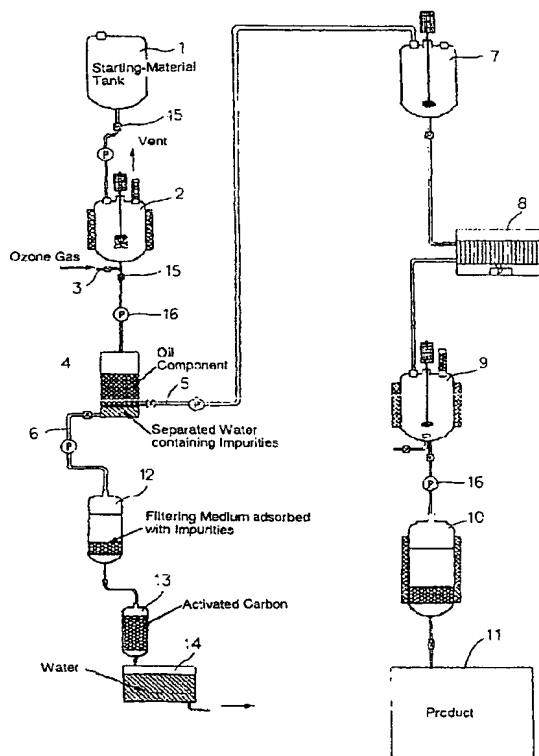
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| <p>(51) International Patent Classification⁷: C10G 55/06, B01J 19/18, 19/26</p> <p>(21) International Application Number: PCT/JP02/05682</p> <p>(22) International Filing Date: 7 June 2002 (07.06.2002)</p> <p>(25) Filing Language: English</p> <p>(26) Publication Language: English</p> <p>(30) Priority Data:
2002-129171 30 April 2002 (30.04.2002) JP</p> <p>(71) Applicant and</p> <p>(72) Inventor: FUJITA, Hideyuki [JP/JP]; 25-3, Higashiazabu 1-chome, Minato-ku, Tokyo 106-0044 (JP).</p> <p>(74) Agent: NISHIYAMA, Yoshiaki; 7th Floor, ASAKOKY-OBASHI Bldg., 1-6-13, Kyobashi, Chuo-ku, Tokyo 104-0031 (JP).</p> | <p>(81) Designated States (national): AE, AG, AL, AU, BA, BB, BG, BR, BZ, CA, CN, CO, CR, CU, CZ, DM, DZ, EC, EE, GD, GE, HR, HU, ID, IL, IN, IS, KP, KR, LC, LK, LR, LI, LV, MA, MG, MK, MN, MX, NO, NZ, OM, PH, PL, RO, SG, SI, SK, TN, TT, UA, US, UZ, VN, YU, ZA.</p> <p>(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published:
— with international search report</p> <p><i>For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.</i></p> |
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Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

- (54) Title:** METHOD, APPARATUS AND PLANT FOR MANUFACTURING ENGINE FUEL



(57) Abstract: A method for manufacturing inexpensive and high-quality engine fuel, from a starting material comprising waste vegetable oils which have been conventionally wasted, is provided. There are provided; a starting-material tank (1) for storing oil/fat therein; a filtering device for filtering out solid components of the oil/fat in the starting-material tank; a first reaction vessel (5) for conducting first cracking by reacting ozone with the oil/fat; an oil/water separation device (4) for separating that water content involved in the cracking reaction, from the oil/fat; a first filtering device (8) for conducting first filtering of the oil/fat; a second reaction vessel (9) for conducting second cracking; a second filtering device (10); an adding device for adding an additive; an impurity adsorbing vessel (12) and a filtering vessel (13) for cooperatively purifying the water phase component from which the oil/fat phase has been excluded by the oil/water separation device; wherein in each of the first reaction and second reaction, there are delivered a reducing agent and polymerization inhibitor into the oil/fat.

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP 02/05682

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C10G55/06 B01J19/18 B01J19/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C10G C10L B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, COMPENDEX, API Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1 026 224 A (MAERKL HERBERT) 9 August 2000 (2000-08-09) cited in the application	1-8
X	paragraphs '0040!-'0058! figures 1,2,6,12; table 1	9-12
A	US 4 747 696 A (MCCRORY CARL E ET AL) 31 May 1988 (1988-05-31) column 1, line 40 - line 66	9,10
A	US 2001/055237 A1 (DOMINIK BRADLEY S ET AL) 27 December 2001 (2001-12-27) abstract; figures 1-10	9,10
P,X	WO 02 38708 A (MURAKAMI SEISHIRO ;FUJITA HIDEYUKI (JP)) 16 May 2002 (2002-05-16) figures 3,4,6	9-12
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

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O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

3 April 2003

Date of mailing of the international search report

11/04/2003

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 02/05682

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 367 848 A (LEWIS MURRAY STUART;MURRAY STUART) 19 February 1932 (1932-02-19) page 3, line 80 -page 4, line 8 ---	1-8
Y	US 4 476 010 A (BOUK DECEASED RAYMOND S) 9 October 1984 (1984-10-09) abstract ---	1-8
A	PATENT ABSTRACTS OF JAPAN vol. 005, no. 045 (C-048), 25 March 1981 (1981-03-25) & JP 55 167249 A (MITSUI PETROCHEM IND LTD), 26 December 1980 (1980-12-26) abstract & DATABASE WPI Section Ch, Week 198110 Derwent Publications Ltd., London, GB; Class E19, AN 1981-16367D XP002237142 & JP 55 167249 A (MITSUI PETROCHEM IND CO LTD), 26 December 1980 (1980-12-26) abstract -----	1

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-8 (part)

Present claims 1, 7 relate to a process comprising a "first treatment step" and a "second treatment step", which steps comprise the introduction of a compound that is defined by reference to a desirable characteristic or property, namely:

Claim 1: a polymerization inhibitor;

Claim 7: a polymerization inhibitor including a phosphorus compound.

The claims cover all possible compounds having this characteristic or property. However, the application does not provide any further support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT as to the chemical identity of said compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT), because an attempt is made to define the compound by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely to the claimed process comprising a "first treatment step" and a "second treatment step", which steps may or may not comprise the introduction of a polymerization inhibitor.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 02/05682

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